

Applicants respectfully submit that, although the present claims have been restricted in response to the Restriction Requirement to claiming a single species, a full spectrum of plant cyclin-dependent kinase inhibitors is in fact disclosed: ICK2, ICN2, ICN6, and ICN7. Furthermore, a consensus sequence is provided in Figure 7. Accordingly, Applicants respectfully submit that the Guidelines dictate that the present claims do not contravene § 112.

Applicants note that the Guidelines state that, for each claim drawn to a genus, “the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics.” It is accordingly clear that an actual reduction to practice of **each and every** species within a claimed genus is not a requirement of the Guidelines. This is made explicitly clear in the materials which accompanied the Guidelines, responding to comments received in response to the draft Guidelines, wherein it is stated (with emphasis added) that “The Guidelines have been clarified to state that *describing an actual reduction to practice is one of a number of ways to show possession of the invention*. Description of an actual reduction to practice offers an important ‘safe haven’ that applies to all applications and is *just one of several ways by which an applicant may demonstrate possession of the claimed invention*.”

In the present application, Applicants note that there are sequences provided for a representative number of cyclin-dependent kinase inhibitors, illustrating an actual reduction to practice for each of these CDK inhibitors.

Finally, Applicants note that Example 18 in the Training Materials which accompany the Guidelines is illustrative of the fact that, where there is an actual reduction to practice of even a single embodiment, a claim which encompasses a relevant genus may nevertheless be fully supported and adequately described.

The Examiner acknowledges that the present disclosure enables one skilled in the art to readily transform a plant with a nucleic acid encoding any plant cyclin-dependent kinase inhibitor (page 6 of the Action, first full paragraph). However, the Examiner suggests that it

would require undue experimentation to determine which nucleic acid to express and at what level to modify development in a transgenic plant.

Applicants respectfully submit that, although routine assays may be required in order to identify selected optimal embodiments of the claimed invention, no undue experimentation is required to practice the full scope of the invention. Applicants submit that the emphasis in this test is on “undue,” and not on “experimentation” (see *In re Wands*, 858 F.2d 731, 736-40 (Fed. Cir. 1988)). As the Examiner is no doubt aware, the determination of what is meant by “undue experimentation” has been characterized by the Federal Circuit as follows (*Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d at 1365):

[t]he test [for undue experimentation] is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed to enable the determination of how to practice a desired embodiment of the claimed invention.

In the current case, any necessary experiment is merely routine, and thus not undue. It is believed that any experiment is well within the limits set by the *Genentech* court.

Claims 1-15, 18, 20-22, and 27 stand rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Particularly, the Office action states that the following terms in the claims are indefinite: “development,” “a differentiated tissue,” “homologous to,” “optimally aligned,” “modified,” “altered,” and “to change the ploidy.” The Examiner has also objected to the phraseology of claim 15.

Claim 20 has been amended to incorporate the Examiner’s helpful suggestion. With respect to the other phrases rejected under § 112, 2nd, Applicants respectfully submit that the language is sufficiently definite. However, Applicants respectfully request that the Examiner telephone the undersigned to arrange an interview to discuss possible alternative claim language which the Examiner may feel may be more suitable.

Rejections Under 35 U.S.C. § 102

Claims 1, 8, 9, 15, and 18-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by John (U.S. Patent No. 5,750, 862 issued 12 May 1998). John is cited by the Examiner as teaching a method of modifying development of plants by transforming a plant with a heterologous nucleic acid encoding the cyclin dependent kinase inhibitors WEE-1 or MIK1 (referring to column 2, lines 1-7, lines 26-30, lines 54-64; column 3, lines 28-32; column 4, line 32, lines 41-65). Applicants note that in column 4, lines 57-58, the cited patent identifies the WEE-1 and MIK1 genes as being from the fission yeast. Accordingly, these are not plant cyclin-dependent kinase inhibitors, and the reference cannot anticipate the present claims.

CONCLUSIONS

Based on the foregoing, the claims are in condition for allowance and notification to this effect is requested. If for any reason the Examiner believes that a telephone conference would expedite allowance of the claims, please telephone the undersigned at (503) 226-7391.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By

Tanya M. Harding, Ph.D.
Registration No. 42,630

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 226-7391
Facsimile: (503) 228-9446

**Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)**

In the Claims:

2. (amended) The method of claim 1, wherein the nucleic acid encoding the cyclin-dependent kinase inhibitor is homologous to ICK1, ~~ICK2, ICN2, ICN6 or ICN7.~~

3. (amended) The method of claim 1, wherein the nucleic acid encoding the cyclin-dependent kinase inhibitor is ~~selected from a group consisting of ICK1, ICK2, ICN2, ICN6 and ICN7.~~

4. (amended) The method of claim 1, wherein the cyclin-dependent kinase inhibitor polypeptide is at least 70% identical, when optimally aligned, to ICK1, ~~ICK2, ICN2, ICN6 or ICN7.~~

5. (amended) The method of claim 1, wherein the cyclin-dependent kinase inhibitor polypeptide is ~~selected from a group consisting of ICK1, ICK2, ICN2, ICN6 and ICN7.~~

20. (amended) A transgenic plant tissue ~~derived~~ obtained from the transgenic plant of claim 18.